

REMARKS

Claims 1-26 are pending in the present patent application. Claims 1-26 stand rejected. By this amendment, claim 20 has been amended. This application continues to include claims 1-26.

Claims 1-3, 16, 17, 20-22, and 26 were rejected under 35 U.S.C. §102(e) as being anticipated by Onishi, et al., U.S. Patent No. 6,698,875 B2 (hereinafter, Onishi). Applicants respectfully request reconsideration of the rejection of claims 1-3, 16, 17, 20-22, and 26 in view of the following.

Onishi is directed to an ink set and an ink cartridge for color printing (col. 1, lines 10-11). Onishi discloses a recording apparatus 20 with a printing head unit 60 that mounts a printing head 28 (col. 17, lines 41 and 60, col. 18, line 6, Fig. 2). Printing head 28 includes nozzle arrays 61-66 for black and color inks (col. 18, lines 29-32, Fig. 5). Inlet pipes 73-78 introduce ink from ink tanks into the nozzle arrays (col. 18, lines 33-38). Ink colors include dark and light cyan, dark and light magenta, yellow, and black (col. 18, lines 39-45). The dark and light cyan are approximately same hue, and the dark and light magenta are approximately the same hue (col. 18, lines 45-48). The dark cyan and magenta inks, and the black and yellow inks are dye-based, whereas the light cyan and magenta inks are pigment-based (col. 19, lines 12-18).

Applicants believe that claims 1-3, 16, 17, 20-22, and 26 patentably define Applicants' invention over Onishi, for at least the reasons set forth below.

Claim 1 is directed to an ink jet printer. Claim 1 recites a carrier for mounting a first printhead and a second printhead; a first ink reservoir coupled in fluid communication with said first printhead, said first ink reservoir containing a chromatic dye-based ink; and a second

ink reservoir coupled in fluid communication with said second printhead, said second ink reservoir containing a chromatic pigment-based ink.

In contrast to a first printhead and a second printhead, and a first ink reservoir coupled in fluid communication with said first printhead, said first ink reservoir containing a chromatic dye-based ink; a second ink reservoir coupled in fluid communication with said second printhead, said second ink reservoir containing a chromatic pigment-based ink, as recited in claim 1, Onishi discloses a single printing head 28 with nozzle arrays 61-66 for black and color inks (col. 18, lines 29-32, Fig. 5), wherein the dark cyan and magenta inks, and the black and yellow inks are dye-based, whereas the light cyan and magenta inks are pigment-based (col. 19, lines 12-18).

The Onishi printing head 28 is a single printhead, and accordingly does not disclose, teach, or suggest a first printhead and a second printhead, much less wherein the first printhead is in fluid communication with a first ink reservoir containing a chromatic dye-based ink, whereas the second printhead is in fluid communication with a second ink reservoir containing a chromatic pigment-based ink, as recited in claim 1.

Although, Onishi discloses both dye-based and pigment-based inks, the Onishi dye-based and pigment-based inks are introduced into nozzle arrays 61-66 of the singular printing head 28.

Accordingly, Onishi does not disclose, teach, or suggest a first printhead and a second printhead; a first ink reservoir coupled in fluid communication with the first printhead, the first ink reservoir containing a chromatic dye-based ink; a second ink reservoir coupled in fluid communication with the second printhead, the second ink reservoir containing a chromatic pigment-based ink, as recited in claim 1.

By having the first printhead in fluid communication with a first ink reservoir containing a chromatic dye-based ink, and the second printhead in fluid communication with a second ink reservoir containing a chromatic pigment-based ink, as recited in claim 1, advantages over the prior art are made possible that would not be otherwise achieved.

For example, the chromatic dye-based inks and the chromatic pigment based inks, which may be generally considered to be incompatible, are separated into two totally separate ink reservoirs. This physical separation translates into a physical separation of the corresponding standard color printhead and photo printhead along the bi-directional scanning path of the printhead carrier. This separation, in turn, builds in a drying time between the time that an ink droplet expelled by one of the standard color printhead and the photo printhead at a particular pixel location on the print media sheet can be contacted by another ink drop expelled from the other of the standard color printhead and photo printhead at the same pixel location, or at an adjacent location where the ink droplets may overlap. (See Applicants' specification at page 7, lines 15-25).

The advantage of a built-in drying time resulting from separation of the printheads is not realized by the Onishi printing head 28. For example, it is seen in Onishi Fig. 5 that the nozzle array 63 for the light cyan (LC) ink, which is pigment-based, is immediately adjacent the nozzle array 64 for the dark magenta (M) ink, which is dye-based. Thus, unlike Applicants' claimed invention, the Onishi configuration does not provide a separation as between the dye-based inks and the pigment-based inks as would build a drying time.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Onishi does not disclose, teach, or suggest the subject matter of claim 1. Claim 1 is thus believed allowable in its present form.

Claims 2, 3, 16, and 17, are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 1. In addition, claims 2, 3, 16, and 17 further and patentably define the invention over Onishi.

Amended claim 20 is directed to a method of printing, comprising the step of forming a color image using both a chromatic dye-based ink ejected from a first printhead and a chromatic pigment-based ink ejected from a second printhead. Onishi does not disclose, teach, or suggest forming a color image using both a chromatic dye-based ink ejected from a first printhead and a chromatic pigment-based ink ejected from a second printhead for substantially the same reasons as set forth above with respect to claim 1.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Onishi does not disclose, teach, or suggest the subject matter of claim 20. Claim 20 is thus believed allowable in its present form.

Claims 21, 22, and 26 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 1. In addition, claims 21, 22, and 26 further and patentably define the invention over Onishi.

For example, claim 26 is directed to the method of claim 20, wherein chromatic dye-based ink drops and chromatic pigment-based ink drops may be layered, or be overlapping, in forming said color image. Onishi does not disclose, teach, or suggest wherein chromatic dye-based ink drops and chromatic pigment-based ink drops may be layered, or be overlapping, in forming the color image, as recited in claim 26. Rather, Onishi is directed primarily to ink formulations and does not provide sufficient details pertaining to ink drop placement as might anticipate claim 26.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 1-3, 16, 17, 20-22, and 26 are in condition for allowance in their present respective forms, and thus respectfully request that the rejection of claims 1-3, 16, 17, 20-22, and 26 under 35 U.S.C. 102(e) be withdrawn.

Claims 4-15, 18, 19, and 23-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Onishi in view of Gompertz, et al., U.S. Patent No. 5,742,306 (hereinafter, Gompertz). Applicants respectfully request reconsideration of the rejection of claims 4-15, 18, 19, and 23-25 in view of the following.

Gompertz is directed to an imaging inkjet cartridge system that provides near photographic image quality (col. 1, lines 7-9). Gompertz discloses that a color pen 62 may contain a pigment based ink, but that pen 62 is described as containing three dye based ink colors, such as cyan, yellow and magenta (col. 5, lines 7-10). A black pen 60 contains a pigment-based ink (col. 5, lines 10-11). A full color pen may be used in conjunction with imaging pens having 10% and 40% colorant concentrations, respectively (col. 8, lines 7-25).

Applicants believe that claims 4-15, 18, 19, and 23-25 patentably define Applicants' invention over Onishi, for at least the reasons set forth below.

Claims 4-15, 18, and 19 depend directly or indirectly from claim 1. As set forth above with respect to claim 1, Onishi does not disclose, teach, or suggest the subject matter of claim 1. Applicants respectfully submit that Gompertz does not overcome the deficiency of Onishi as applied to claim 1, nor does the Examiner assert as much. Rather, the Examiner relies on Gompertz for the asserted teachings of various color concentrations of the dye and pigment inks, and for the assertion that the black ink may be a dye or pigment-based ink, and that the printheads and ink reservoirs may be configured as unitary printhead cartridges. Although

Gompertz discloses both dye-based inks and pigment-based inks (col. 5, lines 7-11),

Gompertz does not disclose, teach, or suggest a first printhead in fluid communication with a first ink reservoir containing a chromatic dye-based ink, and the second printhead in fluid communication with a second ink reservoir containing a chromatic pigment-based ink, as recited in claim 1.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Onishi in view of Gompertz, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claims 4-15, 18, and 19.

Claims 23-25 depend indirectly from claim 20. As set forth above with respect to claim 20, Onishi does not disclose, teach, or suggest the subject matter of claim 20. For substantially the same reasons as set forth above with respect to claims 4-15, 18, and 19, Applicants respectfully submit that Gompertz does not overcome the deficiency of Onishi as applied to claim 20.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Onishi in view of Gompertz, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claims 23-25.

Accordingly, Applicants believe that claims 4-15, 18, 19, and 23-25 are in condition for allowance in their present respective forms, and thus respectfully request that the rejection of claims 4-15, 18, 19, and 23-25 under 35 U.S.C. 103(a) be withdrawn.

For the foregoing reasons, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the appended claims. The appended claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (317) 894-0801.

Respectfully submitted,



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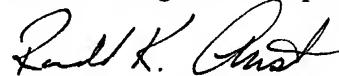
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendments, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: June 14, 2005.

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June 14, 2005

Date